Review Comments
Lakeside Industries Portland Plant Sampling and Analysis Plan
Portland, Oregon
Dated September 2015

Submitted October 7, 2015

Following are the United States Environmental Protection Agency's (EPA) comments on the September 23, 2015 document entitled, Lakeside Industries Portland Plant Sampling and Analysis Plan (SAP), Portland, Oregon, prepared by Pacific Groundwater Group (PGG) for Lakeside Industries, Inc. The Lakeside Industries Facility site is located at 4850 NW Front Street, Portland, Oregon listed in DEQ's cleanup program as ECSI #2372. The site is located at approximately River Mile (RM) 8.3W.

EPA understands the purpose of the SAP report is to respond to comments received from the Oregon Department of Environmental Quality (DEQ) and EPA on the December 2013 SCE Report prepared by Hahn and Associates, Inc. The comments identified data gaps related to the groundwater pathway to sediments and surface water of the Willamette River. The SAP plans data collection to address the following two primary concerns:

- Uncertainty from artefactual turbidity potentially biasing carcinogenic polycyclic aromatic hydrocarbon (cPAH) analytical results at monitoring wells MW-44, MW-50, and MW-51.
- Potential for groundwater impacts from soil leaching from 1970s shoreline fill material.

General Comments

1. Monitoring well MW-43 should be included as a monitoring point in the ongoing groundwater investigation to evaluate groundwater located downgradient of the potential halogenated volatile organic compound (HVOC) source at the former UIC #3 location (boring P-8). Samples collected at MW-43 should be tested for all analytes outlined in Section 1.3 and Table 2 of the SAP. As outlined in EPA's follow-on comments (dated 14 September 2015) to PGG's September 8, 2015 response to DEQ and EPA comments on the December 2013 SCE Report, there still remain data gaps in the occurrence of HVOCs in groundwater detected at P-8. Continued ground monitoring downgradient of P-8 is needed to support PGG's conclusion that the HVOCs detected in groundwater at P-8 are solely from the offsite source on the upgradient property. If the HVOCs detected in groundwater at P-8 were due to the plume originating on the upgradient property, then concentrations at the MW-43 and MW-50 should begin to decrease over time. If concentrations at these wells do not decrease or show an increasing trend, then it may indicate a residual HVOC source in the vicinity of P-8 and further investigation of groundwater should be implemented in the P-8 and leach field area.

2. The SAP should describe the frequency and duration of groundwater monitoring. Changes in contaminant concentrations over time may occur due to tidal influence on groundwater levels, seasonal changes in groundwater levels, migration of contaminants, and equilibration of

contaminant concentrations in the aquifer after shutdown of the upgradient groundwater treatment systems. EPA recommends quarterly groundwater monitoring to capture seasonal changes and characterize contaminant concentrations in groundwater at the site. If monitoring results indicate increasing trends or if concentrations are greater than the Portland Harbor Preliminary Remediation Goals (PRGs), then quarterly monitoring should be continued and additional source control evaluation investigation implemented. Once stable or decreasing concentrations are documented by a statistically significant trend, the frequency of monitoring could be reduced. EPA recommends a minimum of four quarterly post-shutdown monitoring events to evaluate post-shutdown conditions. Once stable concentrations are documented, the frequency of monitoring could be reduced. The SAP and QAPP should present the groundwater sampling schedule and decision metrics that will be applied to determine when the frequency of monitoring can be reduced.

Specific Comments

1. Section 1.1, page 2, bullet 6 – Clarify if the "greater than 1 foot variation in response to river stage changes" is the seasonal change in groundwater level. Provide an estimate on the range of seasonal groundwater level changes based on existing monitoring at nearshore wells, if known.

2. Section 1.2, page 2, paragraph 1 – The following items should be added to the investigation objectives based on items of concern presented in DEQ and EPA's comments on the December 2013 SCE Report:

    a. Potential soil leaching to groundwater impacts from fill placed along the shoreline in the 1970s.

    b. Determine stability of the HVOC plume in the area downgradient of boring P-8.

3. Section 1.2, page 3, bullet 1 – As stated in EPA's follow-on comments (dated September 14, 2015) to PGG's response to comment letter, the potential for an on-site HVOC in the vicinity of boring P-8 cannot be ruled out based on existing data.

4. Section 1.3, page 3, paragraph 2 - The appropriate comparison criteria that should be used to evaluate groundwater is the Preliminary Remediation Goals (PRGs) that EPA has established for the Portland Harbor site. The PRG version released by EPA for stakeholder review is dated August 2015. Table 5-1 should be modified to list the PRGs and requested target detection levels should be sufficient to meet the PRGs.

5. Section 2.2, page 4, paragraph 1 - The text states that the proposed wells MW-101, MW-102, and MW-103 will be screened across the water table, but the well screen length is not provided. Groundwater level monitoring data from existing wells should be used to determine the range in groundwater levels at the nearshore wells and the well screen interval should be selected based on this range. The text should be modified to describe the anticipated well screen length and how the actual length will be determined in the field.

6. Section 2.2.1, page 5, bullet 3 – The statement "well will be considerably developed to remove fines from the well and immediately adjacent aquifer" does not adequately describe how the new monitoring wells will be developed. Given one of the primary concerns to be addressed by this work is the uncertainty associated with the analytical results affected by artefactual turbidity, effective development of the wells is critical. The methods, equipment, and duration used to completely develop the new wells should be described. Criteria for ending well development should be identified.

7. Section 2.4.1, page 6, bullet 5 – EPA recommends that alternate sampling procedures be implemented to reduce artefactual turbidity, prior to resorting to filtration of the samples for PAH analysis. Alternative sampling methods that would result in lower turbidity include use of bladder pumps and the use of dedicated sampling pumps installed at least a day before sample collection.

8. Appendix C, QAPP Section 2.2.5, page 9 - Change title from "Provisions to Reduce Turbidity" to "Provisions to Reduce Artefactual Turbidity."